

New York State Severe Weather Awareness Week April 30th to May 6th, 2017

Flash Flooding and River Flooding

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NOAA's National Weather Service**

NWS Binghamton



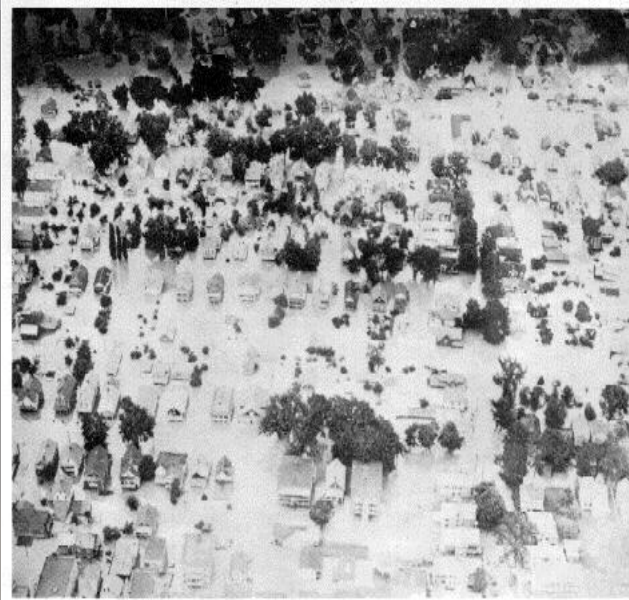
Flooding

Elmira, NY after Agnes



An airview of a portion of Elmira's Southside, June 2

Binghamton, NY
July 8th 1935



Hurricane Ivan, Sept 2004



September 2011



Any part of the state can have flash flooding and river flooding.

Here are some notable events

- July 1935
- Agnes - June 1972
- January 1996
- Ivan – Sept 2004
- June 2006
- September 2011
- and many others

Types of Flooding

- **Urban Flooding** - Takes less rainfall to cause flooding. Causes ponding of water on roads and low-lying areas.
- **Flash Flooding** - Flooding on small streams. Responds in less than 6 hours.
- **River Flooding** - Flooding on larger rivers and streams. Responds in greater than 6 hours.

Slow-Moving Thunderstorms often produce flash floods



Prepare for Flooding before it happens



Are you in a flood plain?

Find out at [ready.gov/floods](https://www.ready.gov/floods)

Weather-Ready Nation
National Oceanic and Atmospheric Administration

National Weather Service
[weather.gov/flood](https://www.weather.gov/flood)



**Flooding can happen to
anyone. Always have a
plan. Flash flooding can
happen in a flash!**



How Flooding Occurs

- **Heavy Rain** – Abundant rainfall from thunderstorms or multiple storms tracking over the same area



- **Ice Jams** – River ice melting and acting as a dam







- **Snowmelt & Rain** – Deep snow pack melting quickly, combined with rain over a frozen ground



Flood Warning means Take Action

Flooding is Expected

-  Move to higher ground immediately
-  Use extra caution if driving
-  Check forecast updates
-  Stay weather ready



Weather-Ready Nation

National Oceanic and Atmospheric Administration

National Weather Service
weather.gov/flood

Understand what a **Flood Warning** means. Don't let mother nature catch you off-guard .



The background of the slide features a large, circular NOAA logo. The logo is white with a blue border containing the text "NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION" and "U.S. DEPARTMENT OF COMMERCE". In the center of the logo is a blue circle with the word "NOAA" in white. Below the circle is a stylized blue wave. The entire logo is set against a background of soft, white and light blue clouds. At the bottom of the slide, there is a reflection of the NOAA logo in a wavy, blue water-like pattern.

Historical Local Floods

NWS Binghamton

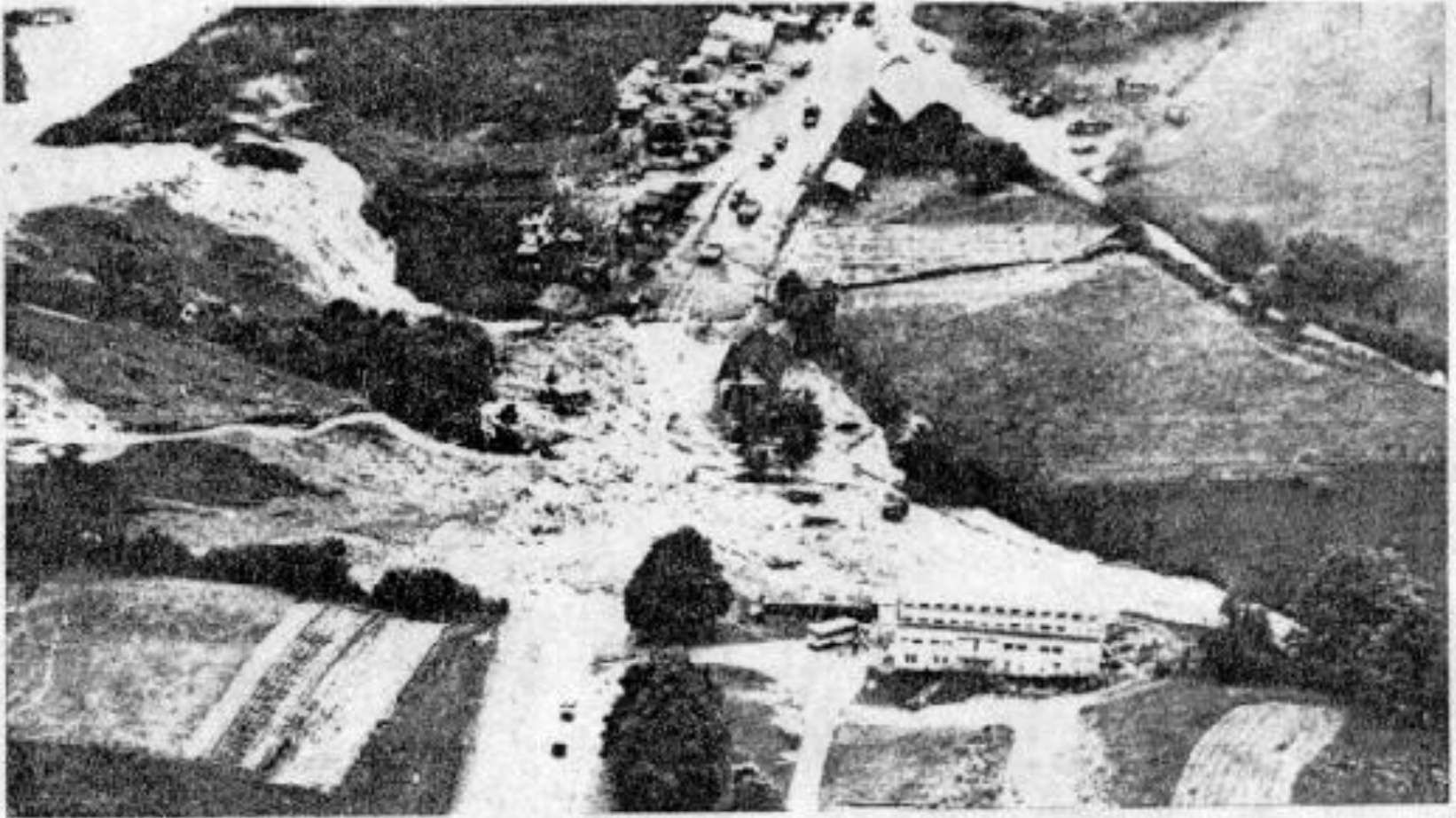


River Flood: Binghamton, NY 1935



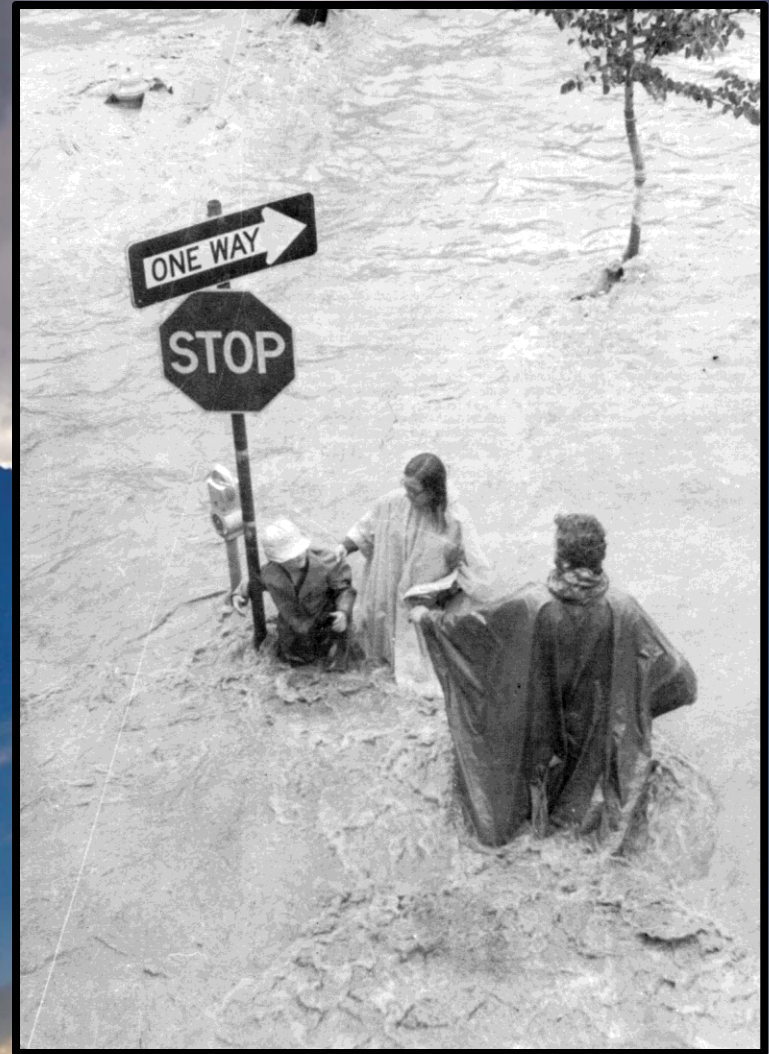
Chenango River and Front Street, Binghamton, N. Y.
Water backing in through Valley Street and into the First Ward

River Flood: Cortland and Marathon, NY 1935



Wild rushing waters played havoc with the Cortland-Marathon road

River Flood: Agnes, NY 1972



Flash Flood: Hornell, NY June 1972



The Canisteo River wall kept the river out but trapped runoff from Tobes Hill along Hornell's Dennis Ave.

Flooding: Tioga County, NY 2005



NWS Binghamton



River Flooding: Broome CO, NY 2006



- 9 fatalities in central NY and northeast PA
- \$1 billion in damages
- State of Emergencies in many counties
- Record flooding on the Susquehanna River in New York State



June 2006

Flooding along the North Branch of the Susquehanna River (*orange denotes new record)

RIVER	GAGE	JUNE 2006 CREST	RECORD	APR 2005	IVAN 2004
CHENANGO	SHERBURNE	11.35'	11.2' (1914)	10.78'	N/A
CHENANGO	GREENE	21.16'	22.0' (1935)	18.67'	N/A
SUSQUEHANNA	UNADILLA	17.72'	16.6' (1936)	13.67'	N/A
SUSQUEHANNA	BAINBRIDGE	27.05'	23.1' (1914)	20.47'	15.09'
SUSQUEHANNA	CONKLIN	25.02'	20.83' (1948)	18.08'	19.01'
SUSQUEHANNA	VESTAL	33.66'	30.5' (1936)	28.87'	25.98'
SUSQUEHANNA	WAVERLY	22.52'	21.4' (1936)	20.88'	18.80'
SUSQUEHANNA	TOWANDA	20.83'	33.43' (1972)	23.05'	22.27'
SUSQUEHANNA	MESHOPPEN	32.78'	43.51' (1972)	34.06'	35.27'
SUSQUEHANNA	WILKES-BARRE	34.09'	40.91' (1972)	30.94'	34.96'

Flash Flood: Delaware County

June 19th 2007

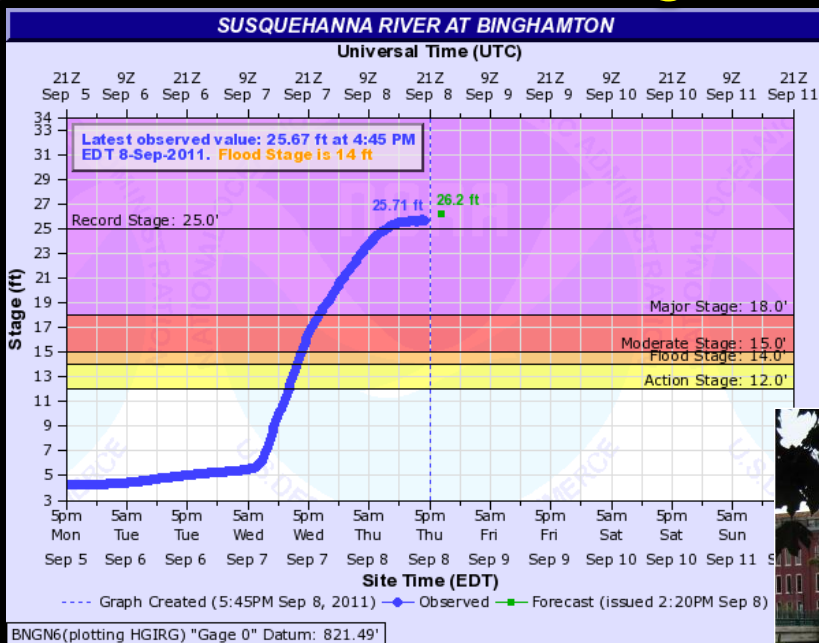
- 4 fatalities
- \$10 million in damage
- Route 206 destroyed between Roscoe and Downsville
- 4 homes completely washed away
- 37 homes were severely damaged or destroyed
- As much as 11 inches of rain fell in about 3 hours



Photo by Dave Morford National Weather Binghamton, NY June 22, 2007

Flooding: September 2011

Tioga & Broome County NY



- No fatalities in Central NY
- \$1 billion in damages
- State of Emergencies in many counties
- Record flooding on the Susquehanna River in New York State.



Hurricane Lee 2011



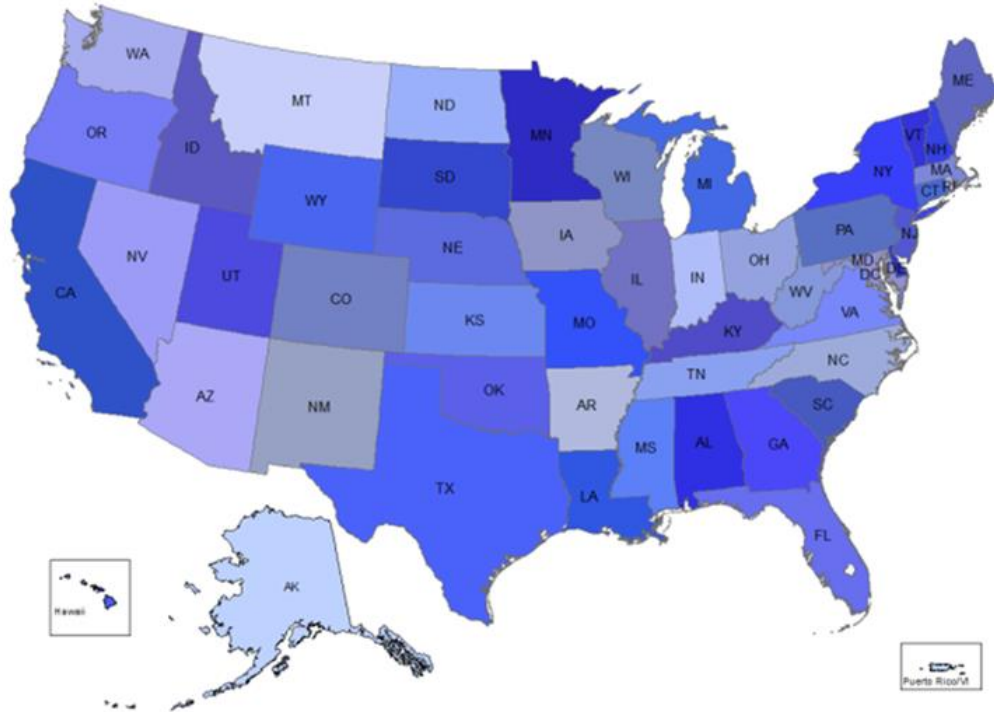
September 2011

Flooding along the North Branch of the Susquehanna River (*orange denotes new record)

RIVER	GAGE	SEPT 2011	RECORD	JUNE 2006	APR 2005
CHENANGO	SHERBURNE	11.64'	11.35' (2006)	11.35'	10.78'
CHENANGO	GREENE	21.09'	22.0' (1935)	21.16'	18.67'
UNADILLA	ROCKDALE	14.22'	13.96' (2006)	13.96'	11.83'
SUSQUEHANNA	UNADILLA	16.34'	17.72' (2006)	17.72'	13.67'
SUSQUEHANNA	BAINBRIDGE	26.20'	27.05' (2006)	27.05'	20.47'
SUSQUEHANNA	CONKLIN	23.94'	25.02' (2006)	25.02'	18.08'
SUSQUEHANNA	VESTAL	35.26'	33.66' (2006)	33.66'	28.87'
SUSQUEHANNA	WAVERLY	26.67'	22.52' (2006)	22.52'	20.88'
SUSQUEHANNA	OWEGO	39.62'	35.90' (2006)	35.90'	33.15'
SUSQUEHANNA	BINGHAMTON	25.71'	25.00' (2006)	25.00'	N/A

What kind of flooding can you expect?

Learn about Flooding in Your State



What kind of flooding can you expect?

Find out at weather.gov/floodsafety



Weather-Ready Nation

National Oceanic and Atmospheric Administration

National Weather Service

weather.gov/flood

WATCH vs. WARNING

CAUTION

- Check the forecast often
- Monitor the skies
- Know where to take shelter

DANGER

- Take shelter immediately!
- Seek further information
- Monitor the forecast

WATCH – BE Prepared!

Conditions are favorable for severe weather in or near the watch area. Watches are issued for tornadoes, severe thunderstorms and flash floods. Issued by the Storm Prediction Center

WARNING – TAKE ACTION!

The severe weather event is imminent or occurring in the warned area. Warnings are issued for tornadoes, severe thunderstorms, flash floods and river flooding. Issued by NWS Binghamton for central New York and northeast Pennsylvania.